AD/A-006 517

AIRFIELD PAVEMENT EVALUATION REPORT. GODMAN ARMY AIRFIELD, FORT KNOX, KENTUCKY

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Army Engineer Waterways Experiment Station

Prepared for:

Army Corps of Engineers

January 1971

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MISCELLANEOUS PAPER S-71-1

AIRFIELD PAVEMENT EVALUATION REPORT GODMAN ARMY AIRFIELD FORT KNOX, KENTUCKY

by

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January 1971

Prepared for Baltimore District, U. S. Army Corps of Engineers

Conducted by U. S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi

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Contents

AIRFIELD PAVEMENT EVALUATION REPORT

GODMAN ARMY AIRFIELD

FORT KNOX, KENTUCKY

Introduction

1. The primary purpose of this study was to establish the allowable load-carrying capacities of the airfield pavements at Godman Army Airfield (GAA), Fort Knox, Kentucky, and to determine overlay requirements for C-130 aircraft operations. Godman Army Airfield is located in that portion of the Fort Knox military reservation which lies in Hardin County, Kentucky, approximately 6 miles south of West Point, Kentucky, and is adjacent to U. S. Highway 31W. A vicinity map is shown in plate 1.

Pertinent Background Data

General description of airfield

2. The airfield is located in an area of rolling to hilly topography. The subgrade soils encountered during this investigation were lean (CL) to heavy clays (CH).

3. GAA's primary pavement facilities consist of the N-S (17-35) runway, original parking aprons with north and south extensions, dispersed rotary-wing parking facilities, hangar aprons, and a series of connecting taxiways. (A layout of these facilities is shown in plate 1.) The remaining facilities are considered secondary and some of these are closed: namely, the NE-SW (4-22) and E-W (9-27) runways. However, the portion of the E-W runway east of the N-S runway is used as a taxiway.

Traffic and usage

4. Traffic on the airfield is composed primarily of U-8 and rotary-wing aircraft with occasional operations of C-47, C-9, and C-130 aircraft.

Drainage

5. The areas enclosed by the runways and taxiways are drained by a series of inlets and underground drains, which are not performing completely

satisfactorily as ponded water was observed in several areas during the conduct of this investigation. At the north end of taxiway 1, the pavement facility acts as a drainage structure for a considerable distance because the pavement is lower than the surrounding area.

Previous investigations

6. Results of previous investigations are contained in the following reports.

a. U. S. Army Engineer District, Louisville, Ky., "Report of Airfield Pavement Evaluation," dated April 1944.

b. Ohio River Division Laboratories, Mariemont, Ohio, "Airfield Evaluation Report," dated May 1958.

c. Ohio River Division Laboratories, Cincinnati, Ohio, "Condition Survey Report," dated May 1961.

d. Ohio River Division Laboratories, Cincinnati, Ohio, "Special Airfield Pavement Report," dated May 1964.

Construction history

7. Construction history is shown in table 1. The majority of the pavement facilities were constructed in 1941, 1942-43, and 1944. Several years elapsed before any new facilities were constructed. In 1958, a dispersed rotary-wing parking area was constructed and other new facilities constructed in 1959, 1960, and 1962. The pavement of the original apron and extensions, taxiway 4, and north end of the N-S runway is portland cement concrete (PCC) overlaid with asphaltic concrete (AC). The interior portions of all runways, taxiways 5 and 6, and dispersed rotary-wing parking area are AC pavements. The pavement of the facilities not listed above is PCC.

Condition of pavement

8. The general condition of the GAA pavements at the time of this evaluation was considered to be fair. The flexible pavements of the primary system presented a generally smooth appearance, although there was some longitudinal and transverse cracking (photographs 1 and 2). The rigid pavements that were not overlaid with asphalt had many slabs with major cracking and spalling (photograph 3). Reflection cracking was apparent in areas where the rigid pavement was overlaid with AC (photographs 4 and 5). A rigid pavement condition survey is shown in table 2.

Tests Conducted

Field tests

9. Tests were performed at 16 locations as shown in plate 1 and are described below. Results of the tests are given in table 3.

a. Plate bearing tests were performed at two locations that represented areas of different moduli of subgrade reaction (k) according to construction records. Average k values of 50 were reported during 1941 and 1942-43 PCC construction in the area of the apron; average k values of 75 were recorded for all other areas of 1941, 1942-43, and 1944 PCC construction. Subgrade material for laboratory testing was taken at the location of plate bearing test 1 shown in plate 1.

b. Two test pits were dug on the N-S runway to determine thickness of the pavement and base, CBR of base and subgrade, and moisture content and density of the subgrade. Samples of the subgrade material were obtained for laboratory testing. Five observation holes were made at locations in the AC portion of the N-S runway to measure the thicknesses of the pavement and the base course and to determine the CBR of the base course.

c. CBR tests were made in the subgrade under the PCC pavement in six core holes and in an area where a slab (slab 3) was removed.

10. Slabs were removed from three areas representing the three major PCC construction efforts (i.e., 1941, 1942-43, and 1944). Thirty cores were also taken from PCC pavements. These slabs and cores were used in laboratory testing.

Laboratory tests

11. Laboratory tests were performed on samples of rigid pavement and subgrade to determine the characteristics of the materials and to aid in interpreting the in-place tests. Results of the laboratory tests are given in table 3.

12. Pavement. Beams were cut from the slabs described in paragraph 10 in order to determine the flexural strength of the concrete. Tensile splitting tests were performed on all concrete cores to correlate with the beam flexure tests. The results of the tensile splitting tests were then used to predict the flexural strength of the PCC pavement.

13. Subgrade. The laboratory tests on the subgrade soils consisted of sieve analysis and liquid and plastic limits. These tests were used to classify the subgrade material.

Analysis of Data

Flexible pavements

14. AC pavement. No tests were performed on the AC pavement. Visual inspection indicated the pavement is fairly dense and of good quality. Numerous shrinkage cracks were found that extended the full depth of the pavement; however, the pavement appears to be satisfactory for the aircraft presently operating at GAA.

15. The thickness of the bituminous pavement on the N-S runway ranged from 5 to 7-1/2 in. and the overall average was about 6 in. For evaluation purposes, a thickness of 6 in. was assigned the bituminous pavement on the N-S runway.

16. Base course. The material used for the base course under all flexible pavements was a crushed limestone having a maximum-size aggregate of about 2 in. with a small percentage of fines. The base material had been treated with asphalt and previous reports (referenced in paragraph 6) referred to the base material as a penetration-type construction. The base course material at the seven locations tested on the N-S runway appeared to be of about the same gradation and quality. No gradation determinations were made on the material because of the asphalt in the material. An attempt was made to determine the CBR of the base course at five test locations. Due to the large size of the limestone aggregate and lack of fines, it was difficult to prepare the surface for testing and a wide range of CBR values was obtained. The CBR values varied from 15 to 65 and averaged about 40. Previous reports assigned this material a CBR of 30 for evaluation. Experience has indicated that this material should perform as a material with a CBR of 30 or better; therefore, this value was assigned for this evaluation. The CBR of the base course is not the controlling factor for evaluation.

17. The thickness of the base material in the areas tested ranged from 3-1/2 to 8 in. and averaged about 5 in. The thickness of 5 in. was assigned for use in evaluation of the flexible pavement portion of the N-S runway.

18. Subgrade. The principal subgrade soils in the airfield area are lean clays (CL) with intermittent pockets of heavy clay (CH). These soils are residual clays from disintegrated argillaceous limestone, and in some test areas, the clays were found to contain small amounts of limestone mixed with the clay. Liquid limits of the lean clay were 42 and 47 with corresponding plasticity indexes of 24 and 25. Liquid limit of the heavy clay was 67 and plasticity index was 46.

19. Results of CBR tests on the subgrade material ranged from a low of about 1 to a high of 11. A CBR of 1 was measured in the apron area where a concrete slab was removed for flexural strength tests, and the low value could be attributed to disturbance of the soil in removing the heavy slab. The other low CBR of 1 was measured on taxiway 8 in a heavy clay where poor drainage contributed to the high moisture content. Except for these two isolated cases, the CBR values generally ranged from about 3 to 10 and averaged about 5. The CBR of 5 was considered a reasonable value to assign for evaluation.

20. The subgrade material is frost susceptible, falling into the F-3 classification. Various amounts of frost penetration into the subgrade will occur dependent on the combined thickness of pavement and base courses. However, since the airfield lies south of the zero mean freezing index line, substantial frost penetration will not occur during the normal (average) or warmer-than-normal freezing seasons.

Rigid pavements

21. PCC. The majority of the PCC pavements were constructed in three construction phases: 1941, 1942-43, and 1944. It was reported these original concrete pavements were constructed with a blend of natural and portland cement. As noted in plate 1, three slabs were sawed from areas representing the three construction phases and thirty concrete cores were also obtained to supplement the three slabs. Tensile splitting tests on the concrete cores and flexural beam tests on the sawed slabs indicated the following values could be assigned for the flexural strength of the three construction phases: 1941 - 675 psi; 1942-43 - 900 psi; and 1944 - 825 psi. It was noted in all the specimens tested that large-size rounded gravel was

used in the concrete mix and that the beams and cores broke across the aggregate indicating a good bond between mortar and aggregate.

22. The thickness of the concrete as measured is indicated in table 3 and ranged from 5 to 7-1/2 in. The assigned thickness for use in evaluation is shown in table 4 for the various facilities.

23. Subgrade modulus k. Plate bearing tests performed in nine locations on the subgrade for the 1944 evaluation report indicated subgrade modulus k values ranging from 44 to 161. From this, k values of 50 and 75 were assigned for use in evaluation. Two plate bearing tests during this investigation indicated subgrade modulus k of 59 and 139. The low value was obtained in the original apron area and the higher value was obtained on the N-S runway. Based on the results of these tests and examination of the subgrade material from the core holes and test pits, it was considered reasonable to assign for evaluation a subgrade modulus k of 50 for the original apron area and 100 for the other rigid pavement areas. A subgrade modulus k value of 75 was used for design of the north hangar access apron and wash rack, and this value is also used for evaluation.

Evaluation

Criteria

24. The evaluation of the load-carrying capacity of the GAA pavements was based on criteria contained in TM 5-826-2 and TM 5-827-3, "Army Airfield Flexible-Pavement Evaluation" and "Rigid Airfield Pavement Evaluation." Evaluations are shown in table 4 for four life categories of airfield pavements and various types of landing gear wheel assemblies. It is normal procedure to show only the evaluation for the capacity-life category; however, it is of value to the user to know what limited use can be made of the field by certain types of aircraft. An aircraft identification index is presented in table 5, which lists the various types of aircraft according to landing gear configurations.

25. The ability of a given pavement to withstand traffic depends partly on the magnitude of the load and partly on the number of repetitions of

the load. Therefore, very limited use by aircraft heavier than those for which the pavements were designed can be tolerated without causing failure. The periods of time of such usage, which are less than the design life of the pavement, are termed "operational categories" and are defined below in terms of aircraft operations. The operational categories and the conditions that the evaluations represent are as follows:

a. Capacity operational category. Maximum allowable loadings for unlimited aircraft operations.

b. Full operational category. Maximum allowable loadings for normal aircraft operations for the number of cycles shown in table 6.

c. Minimum operational category. Maximum allowable loadings for normal aircraft operations for the number of cycles shown in table 6.

d. Emergency operational category. Maximum allowable loadings for normal aircraft operations for the number of cycles shown in table 6.

26. The term "normal aircraft operations" can be described as the usual amount of plane movements to be expected during a training program with the maximum number of wings the field can accommodate. The allowable loadings permitted in the shorter life categories (full, minimum, and emergency) are intended to represent a normal volume of traffic. Naturally if an airfield is subjected to an unusually large volume of traffic in a period of time associated with one of the shorter life categories, pavement failure would be expected sooner than the time period shown. Table 6 shows the number of traffic cycles in the full, minimum, and emergency categories assumed in the evaluation criteria. These traffic cycle levels are believed to be consistent with what might be termed normal operations of aircraft having the landing gear configurations indicated, and major increases beyond these levels could be expected to cause earlier failure.

Load-carrying capacity

27. The evaluation of the load-carrying capacity of the various flexible pavements was obtained by applying the proper criteria to the following features: (a) total thickness of base and pavement above the subgrade and strength of the subgrade and (b) thickness of pavement above the base course and strength of the base course.

28. The evaluation of the load-carrying capacity of the various PCC pavements was obtained by applying the proper criteria to the following features: (a) thickness of pavement above the subgrade, (b) flexural strength of the pavements, and (c) the value of the modulus of subgrade reaction (k).

29. The load-carrying capacity must be reduced during frost-melting periods.

30. Individual pavement evaluation. As discussed in previous paragraphs, representative thicknesses and CBR values were selected for the pavement sections of the flexible pavements. The values of flexural strength and thickness of pavements and the modulus of subgrade reaction (k) of the PCC pavements were used to evaluate the various facilities.

31. Field evaluation. The overall field evaluation is based on the rating of the weakest portion of the facilities necessary for the operation of the field. Thus, the field evaluation for GAA is controlled by the load-carrying capacity of the flexible pavement located within the 1000-ft ends of the N-S runway.

32. Overlay design thicknesses. The overlay design thicknesses given in table 7 are indicated for three operational categories: namely, capacity, full, and emergency. The requirements for these three categories are presented so that a choice could be made depending on operational requirements and available funds for construction. Thicknesses are listed for three types of overlay pavements: nonrigid over rigid, rigid over both rigid and flexible, and flexible over flexible pavement. Records indicate that the freezing index for this area is about 500, which means that frost penetrates to a depth of approximately 21 in. below the surface of the ground. Therefore, if the thicknesses for the emergency operational category shown in table 7 are selected for the overlay, only the rigid overlay would be thick enough to protect the subgrade from the detrimental effects of frost action.

Table 1

Construction History

Designation	Dimensions Length ft	Dimensions Width ft	Surface Thickness in.	Surface Type	Construction Year	Construction Agency	Remarks
N-S runway							
Sta 1+99.3-8+39.3±	640	150	9-6-6-9	PCC	1944	CE	
Sta 52+50±-54+00	150						
Sta 52+50-54+00	150		2	AC	1965	Post Engr	Overlay
					1965	Post Engr	Slurry seal
Sta 8+39.3-52+50	4410	150	1 to 3	AC	1941	USQMC & CE	
South half	var	var	3	AC	1959	Post Engr	
Sta 8+39.3±-52+50	4410±	150	$3\frac{1}{2}$	AC	1959	Post Engr	Overlay
Sta 8+39.3±-52+50	4410±	150	2	AC	1962	Post Engr	Overlay
E-W runway							
Sta 1+01-13+80.7	1280±	150	10-6-6-10	PCC	1942	CE	
					1943	CE	
Sta 13+80.7-49+11	3530±	150	1	AC	1941	USQMC & CE	
Sta 31+00-49+11	1811	150	2	AC	1962	Post Engr	
Sta 49+11-51+01	190	150	9-6-6-9	PCC	1943	CE	
NE-SW runway							
Sta -0+75-2+60	365	150	9-6-6-9	PCC	1943	CE	
Sta 42+45-44+25	180						
Sta 2+60-42+45	3985	150	1	AC	1941	USQMC & CE	

(Continued)

(1 of 3 sheets)

Table 1 (Continued)

Designation	Dimensions Length ft	Width ft	Surface Thickness in.	Type	Construction Year	Agency	Remarks
NW-SE runway							
Sta 0+00-5+40	540	150	9-6-6-9	PCC	1944	CE	
Sta 5+40-22+58.3	1718±	150	1	AC	1941	USQMC & CE	
Sta 22+58.3-33+61.9	1103±	150	3	AC	1941		
Sta 33+61.9-35+02.7	141±	150	1	AC	1941		
Sta 35+02.7-50+00	1497±	150	10-6-6-10	PCC	1942	CE	
					1943	CE	
Taxiway 1	1473±	50	10-6-6-10	PCC	1942	CE	
2	1003±	50	10-6-6-10	PCC	1943	CE	
3	256±	50	10-6-6-10	PCC		CE	
4	350±	50	8-6-6-8		1943	Post Engr	
			1	AC	1966	Post Engr	Overlay
5	552	50	2	AC	1941	USQMC & CE	
			2	AC	1966	Post Engr	Overlay
6	325	50	3	AC	1941	CE	
7	460±	50	10-6-6-10	PCC	1942	CE	
8	1915±	50	10-6-6-10	PCC	1943	CE	
9	1102±	50	10-6-6-10	PCC	1943	CE	
Original parking apron	1120	462	7-5-5-7	PCC	1941	CE	
			1½	AC	1966	Post Engr	Overlay
					1967	Post Engr	Tar and sand seal
N & S parking apron extensions	450	300	10-6-6-10	PCC	1942	CE	
			1½		1943		
				AC	1966	Post Engr	Overlay
					1967	Post Engr	Tar and sand seal

(Continued)

(2 of 3 sheets)

Table 1 (Concluded)

Designation	Dimensions Length ft	Dimensions Width ft	Surface Thickness in.	Surface Type	Construction Year	Construction Agency	Remarks
Dispersed rotary-wing parking area	75	58	2	AC	1958	Post Engr	
North hangar access apron, north washrack and taxiway	var	var	10	PCC	1959	Post Engr	
Dispersed rotary-wing parking area	125	100	2	AC	1960	Post Engr	
Rotary-wing aircraft parking facilities (6 parking stubs and access taxiway)	var	var	8 reinf	PCC	1962	CE	
South hangar aprons A & B and south wash-rack	var	var	8 reinf	PCC	1962	CE	

(3 of 3 sheets)

TABLE 2

DATE: October 1970

SUMMARY OF DATA – RIGID PAVEMENT CONDITION SURVEY

AIRFIELD: Godman AAF, Ft. Knox, Ky.

FEATURE	SLAB SIZE FT	APPROX NO. OF SLABS	PAVE. THICK. IN.	NO. OF SLABS CONTAINING INDICATED DEFECTS														% OF SLABS NO DEFECTS	% OF SLABS NO MAJOR DEFECTS	CONDITION
				I	—	\	Δ	✱	∿	S	J	⊥	Ɉ	⊕	M	P	O			
N-S Runway - 35 End	12.5x15	532	9-6-6-9	12	3	3	2	1	36	5	3	14	15	-	2	-	-	81.9	96.0	Good
NE-SW Runway - 04 End	12.5x14 12.5x17 12.5x22	252	9-6-6-9	1	12	1	2	-	4	1	-	1	-	-	-	-	-	91.2	93.6	Good
NE-SW Runway - 22 End	12.5x15	142	9-6-6-9	9	3	1	3	1	3	2	2	1	1	-	-	-	1	81.0	88.0	Good
NW-SE Runway - 15 End	12.5x15	1154	9-6-6-9	14	12	6	3	-	7	40	-	2	33	3	1	-	1	89.4	96.9	Very good
NW-SE Runway - 33 End	12.5x17	180	9-6-6-9	1	1	2	2	1	1	4	-	2	-	-	-	-	-	92.2	96.1	Very good
E-W Runway - 09 End	12.5x15	1028	9-6-6-9	2	1	2	3	2	3	44	-	5	3	-	-	-	2	93.5	99.0	Very good
E-W Runway - 27 End	12.5x67	178	9-6-6-9	6	2	1	1	4	3	-	-	-	1	-	-	-	1	89.3	92.1	Good
Taxiway 1	15x20	389	10-6-6-10	14	24	5	13	3	18	11	2	-	10	8	4	-	-	71.2	84.8	Fair
Taxiway 2	12.5x15	270	10-6-6-10	3	2	3	3	-	2	-	-	2	-	-	-	-	4	92.9	95.9	Good
Taxiway 3	12.5x15	68	10-6-6-10	-	4	-	-	-	-	-	-	-	-	-	-	-	-	94.1	94.1	Very good

REMARKS:

LEGEND:

- I LONGITUDINAL CRACK
- — TRANSVERSE CRACK
- \ DIAGONAL CRACK
- Δ CORNER BREAK
- ✱ SHATTERED SLAB
- ∿ SHRINKAGE CRACK
- S SCALING
- J SPALL ON TRANSVERSE JOINT
- ⊥ SPALL ON LONGITUDINAL JOINT
- Ɉ CORNER SPALL
- ⊕ SETTLEMENT
- M MAP CRACKING
- P PUMPING JOINT
- O POP OUT

TABLE 2 (Concluded)

SUMMARY OF DATA – RIGID PAVEMENT CONDITION SURVEY

FEATURE	SLAB SIZE FT	APPROX NO OF SLABS	PAVE THICK IN	NO. OF SLABS CONTAINING INDICATED DEFECTS														% OF SLABS NO DEFECTS	% OF SLABS NO MAJOR DEFECTS	CONDITION
				|	—	\	Δ	✱	∿	S	J	⊥	ʆ	⊕	M	P	O			
Taxiway [illegible]	12.5x15	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	[illegible]	-	-	-	-	-	-	-	81.5	95.1	Good
Taxiway [illegible]	12.5x15	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	-	[illegible]	[illegible]	-	-	[illegible]	-	-	-	2	[illegible].3	97.[illegible]	Very good
Taxiway [illegible]	12.5x15	[illegible]	[illegible]	-	-	-	[illegible]	-	-	7	-	-	2	-	2	-	1	95.2	99.3	Excellent

REMARKS:

LEGEND:

- | LONGITUDINAL CRACK
- — TRANSVERSE CRACK
- \ DIAGONAL CRACK
- Δ CORNER BREAK
- ✱ SHATTERED SLAB
- ∿ SHRINKAGE CRACK
- S SCALING
- J SPALL ON TRANSVERSE JOINT
- ⊥ SPALL ON LONGITUDINAL JOINT
- ʆ CORNER SPALL
- ⊕ SETTLEMENT
- M MAP CRACKING
- P PUMPING JOINT
- O POP OUT

Table 3

Summary of Physical Property Data

Facility			Pavement				Base				Subgrade						
															In Place		
Identification	Length ft	Width ft	Test*	Thick. in.	Description	Flex. Str psi	Thick. in.	Description	Depth Below Sfc in.	CBR or k	LL	PI	Classification	Depth Below Sfc in.	CBR or k	Moisture Content %	Density lb/cu ft
N-S runway	5201	150															
Sta 4+87 55' east ℄			CH1	6	Portland cement concrete	825											
Sta 5+07 46' east ℄			CH2	6	Portland cement concrete	825											
Sta 5+97 15' east ℄			CH3	6	Portland cement concrete	825											
Sta 6+12 45' east ℄			CH4	6	Portland cement concrete	825											
Sta 6+57 31' east ℄			PB1	6	Portland cement concrete	825					67	46	Heavy clay (CH) with sand & gravel		139	21.7	114.0
Sta 6+87 31' east ℄			CH6	6	Portland cement concrete	825											
Sta 7+39 44' east ℄			CH5	6	Portland cement concrete	825											
Sta 12+00 25' west ℄			OH5	7-1/2	Asphaltic concrete		4	Crushed limestone with asphalt	7-1/2	31			Lean clay (CL)	11-1/2		20.0	
Sta 14+57 15' east ℄			TP1	5-1/2	Asphaltic concrete		3-1/2	Crushed limestone with asphalt			42	24	Lean clay (CL)	9	8	19.0	107.4
															11	20.1	107.1
															11	17.3	107.1
															10	18.8	107.2
														16	6	21.9	100.6
															8	21.8	102.6
															7	21.2	162.3
															7	21.6	101.8

* See plate 1 for locations.

Sheet 1 of 4

Table 3 (Continued)

Facility			Pavement				Base						Subgrade				
															In Place		
Identification	Length ft	Width ft	Test	Thick. in.	Description	Flex. Str psi	Thick. in.	Description	Depth Below Sfc in.	CBR or k	LL	PI	Classification	Depth Below Sfc in.	CBR or k	Moisture Content %	Density lb/cu ft
N-S runway (contd)																	
Sta 22+40 6' east ℄			OH4	5-1/2	Asphaltic concrete		7	Crushed limestone with asphalt	5-1/2	65			Heavy clay (CH)	12-1/2		20.4	
Sta 29+40 15' east ℄			OH3	6	Asphaltic concrete		6	Crushed limestone with asphalt	6	55			Lean clay (CL)	12		21.6	
Sta 36+40 30' west ℄			OH2	5-1/2	Asphal'ic concrete		5	Crushed limestone with asphalt					Lean clay (CL)	10-1/2		23.0	
Sta 41+00 20' west ℄			TP2	7	Asphaltic concrete		4-1/2	Crushed limestone with asphalt	7	15	47	25	Lean clay (CL)	11-1/2	6	21.8	100.8
															5	18.3	98.7
															7	23.9	96.8
															6	21.3	98.7
														18-1/2	6	28.8	104.2
															9	30.1	88.1
															8	25.3	89.9
															8	28.1	94.1
Sta 47+90 22' east ℄			OH1	6	Asphaltic concrete		8	Crushed limestone with asphalt	12	60			Lean clay (CL)	14		22.0	
Sta 53+18 5' east ℄			CH7	6	Portland cement concrete	825											
Sta 53+48 30' east ℄			CH8	6	Portland cement concrete	825									3	23.8	
Taxiway 1	1473±	50	CH9	6	Portland cement concrete	900							Lean clay (CL)	7	3	23.0	
			CH10	6	Portland cement concrete												
			CH11	6	Portland cement concrete	900												

Sheet 2 of 4

Table 3 (Continued)

Facility			Pavement				Base				Subgrade						
															In Place		
Identification	Length ft	Width ft	Test	Thick. in.	Description	Flex. Str psi	Thick. in.	Description	Depth Below Sfc in.	CBR or k	LL	PI	Classification	Depth Below Sfc in.	CBR or k	Moisture Content %	Density lb/cu ft
Taxiway 2	1003±	50	CH12	6	Portland cement concrete	900											
			CH13	6-1/2	Portland cement concrete	900											
Taxiway 3	256±	50	CH20	7	Portland cement concrete	900											
Taxiway 4	350±	50	CH18	7-1/2	Portland cement concrete	900							Lean clay (CL)	7-1/2	3	23.8	
				1	Asphaltic concrete												
Taxiway 7	460±	50	CH23	7-1/2	Portland cement concrete	900											
Taxiway 8	1915±	50	CH24	6-1/2	Portland cement concrete	900							Heavy clay (CH)	7	1	32.9	
			CH25	7	Portland cement concrete	900											
Taxiway 9	1102±	50	CH29	6	Portland cement concrete	900											
NW-SE runway	5000	150	CH28	6	Portland cement concrete	900											
E-W runway	5000	150															
Sta 7+41			CH30	6	Portland cement concrete	900											
Sta 49+50			CH21	6	Portland cement concrete	900											

Sheet 3 of 4

Table 3 (Concluded)

Facility			Pavement				Base				Subgrade						
															In Place		
Identification	Length ft	Width ft	Test	Thick. in.	Description	Flex. Str psi	Thick. in.	Description	Depth Below Sfc in.	CBR or k	LL	PI	Classification	Depth Below Sfc in.	CBR or k	Moisture Content %	Density lb/cu ft
Original parking apron	1120	462	Slab 3	5	Portland cement concrete	675							Lean clay (CL)	7	1	23.8	100.3
			CH14	5-1/2	Portland cement concrete	675											
				1-1/2	Asphaltic concrete												
			CH15	5-1/4	Portland cement concrete	675											
				1	Asphaltic concrete												
			CH16	5	Portland cement concrete	675											
				1	Asphaltic concrete												
			CH17	7-1/2	Portland cement concrete	675											
				1-1/2	Asphaltic concrete												
N-S parking apron extensions	450	300	PB2	6	Portland cement concrete	900							Lean clay (CL)	7-1/2	59	17.1	107.4
	450	300		1-1/2	Asphaltic concrete												
			CH19	5	Portland cement concrete	900							Lean clay (CL)	8-1/2	3	22.0	
				1-1/2	Asphaltic concrete												
			CH22	7	Portland cement concrete	900											
				1	Asphaltic concrete												
			CH26	6	Portland cement concrete	900								8	5	22.2	
			CH27	6-3/4	Portland cement concrete	900											

Sheet 4 of 4

Table 4

SUMMARY OF PAVEMENT EVALUATION

FACILITY			TEST PIT NO.	OVERLAY PAVEMENT			PAVEMENT			BASE			SUBGRADE			
IDENTIFICATION	LENGTH FT	WIDTH FT		THICK. IN	DESCRIPTION	FLEX STR PSI	THICK. IN.	DESCRIPTION	FLEX. STR PSI	THICK. IN.	DESCRIPTION	CBR k	CLASSIFICATION	CBR k	CATEGORY OF PAVEMENT LIFE AND OPERATIONAL USE	SINGLE 100 PSI TIRE PRESS
					PRIMARY PAVEMENTS											
N-S runway Sta 1+99.3 to 8+39.3		Selected figures for evaluation					6	Portland cement concrete	825				Heavy clay (CH) with sand and gravel	100	Emergency Minimum Full Capacity	70,00 55,00 45,00 35,00
Sta 8+39 to 11+99		Selected figures for evaluation					6	Asphaltic concrete		5	Crushed limestone with asphalt	30	Lean clay (CL)	5	Emergency Minimum Full Capacity	40,00 25,00 (a) (a)
Sta 11+99 to 44+00		Selected figures for evaluation					6	Asphaltic concrete		5	Crushed limestone with asphalt	30	Lean clay (CL)	5	Emergency Minimum Full Capacity	60,00 40,00 (a) (a)
Sta 44+00 to 52+50		Selected figures for evaluation					6	Asphaltic concrete		5	Crushed limestone with asphalt	30	Lean clay (CL)	5	Emergency Minimum Full Capacity	40,00 25,00 (a) (a)
Sta 52+50 to 54+00		Selected figures for evaluation		1-1/2	Asphaltic concrete		6	Portland cement	825				Lean clay (CL)	100	Emergency Minimum Full Capacity	105,00 85,00 65,00 55,00
Taxiway 1, 2, and 7		Selected figures for evaluation					6	Portland cement	900				Lean clay (CL)	100	Emergency Minimum Full Capacity	80,00 65,00 50,00 40,00
Taxiway 4		Selected figures for evaluation		1-1/2	Asphaltic concrete		6	Portland cement	900				Lean clay (CL)	100	Emergency Minimum Full Capacity	110,00 85,00 70,00 55,00
North hangar access apron N wash rack & taxiway		Selected figures for evaluation					10	Portland cement	800	4	Granular base course (non- frost susceptible)		Lean clay (CL)	75	Emergency Minimum Full Capacity	155,00 140,00 110,00 85,00
Rotary wi , air- craft facility S hangar aprons A&B Wash rack		Selected figures for evaluation					8	Portland cement reinf. 6"x6"x 4/4 welded wire fabric	750	12	Crushed limestone	150	Lean clay (CL)		Emergency Minimum Full Capacity	150,00 125,00 100,00 75,00
Original apron		Selected figures for evaluation		1-1/2	Asphaltic concrete		5	Portland cement	675				Lean clay (CL)	50	Emergency Minimum Full Capacity	45,00 35,00 30,00 25,00
North and south apron ext.		Selected figures for evaluation		1-1/2	Asphaltic concrete		6	Portland cement	900				Lean clay (CL)	100	Emergency Minimum Full Capacity	110,00 85,00 70,00 55,00
					SECONDARY PAVEMENTS											
EW runway Sta 1+01 to 13+80.7		Selected figures for evaluation					6	Portland cement	900				Lean clay (CL)	100	Emergency Minimum Full Capacity	80,00 50,00 40,00

WES FORM NO 777
REV DEC 69

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Table 4

SUMMARY OF PAVEMENT EVALUATION

GRADE		LOAD CARRYING CAPACITY IN LB OF GROSS PLANE LOAD FOR INDICATED LANDING GEAR TYPES AND CONFIGURATIONS AND LIFE CATEGORIES											TRAFFIC AREA
			TRICYCLE ARRANGEMENT									BICYCLE	
ATION	CBR %	CATEGORY OF PAVEMENT LIFE AND OPERATIONAL USE	SINGLE 100 PSI TIRE PRESSURE	SINGLE 100 SQ IN CONTACT AREA	SINGLE 241 SQ IN CONTACT AREA	TW 20 C-C 226 SQ IN CONTACT AREA EACH TIRE	SINGLE TANDEM 60 SPACING 400 SQ IN CONTACT AREA	TW 37 C-C 267 SQ IN CONTACT AREA EACH TIRE	TW 44 C-C 630 SQ IN CONTACT AREA EACH TIRE	TWIN TANDEM 33 × 48 208 SQ IN CONTACT AREA EACH TIRE	C-5A GEAR CONFIGURATION	TWIN TWIN SPCG 37-62-37 267 SQ IN CONTACT AREA EACH TIRE	
y (CH) nd and	100	Emergency Minimum Full Capacity	70,000 55,000 45,000 35,000	55,000 45,000 35,000 25,000	45,000 (a) (a) (a)	105,000 85,000 70,000 55,000	150,000 125,000 110,000 90,000	120,000 95,000 80,000 65,000	165,000 135,000 115,000 (a)	215,000 180,000 150,000 (a)	600,000 500,000 420,000 350,000	(a) (a) (a) (a)	B
(CL)	5	Emergency Minimum Full Capacity	40,000 25,000 (a) (a)	40,000 25,000 (a) (a)	45,000 (a) (a) (a)	75,000 45,000 (a) (a)	85,000 (a) (a) (a)	80,000 (a) (a) (a)	(a) (a) (a) (a)	130,000 (a) (a) (a)	330,000 (a) (a) (a)	(a) (a) (a) (a)	B
(CL)	5	Emergency Minimum Full Capacity	60,000 40,000 (a) (a)	60,000 30,000 (a) (a)	50,000 (a) (a) (a)	95,000 55,000 (a) (a)	115,000 80,000 (a) (a)	110,000 (a) (a) (a)	(a) (a) (a) (a)	170,000 (a) (a) (a)	470,000 (a) (a) (a)	(a) (a) (a) (a)	C
(CL)	5	Emergency Minimum Full Capacity	40,000 25,000 (a) (a)	40,000 25,000 (a) (a)	45,000 (a) (a) (a)	75,000 45,000 (a) (a)	85,000 (a) (a) (a)	80,000 (a) (a) (a)	(a) (a) (a) (a)	130,000 (a) (a) (a)	330,000 (a) (a) (a)	(a) (a) (a) (a)	B
(CL)	100	Emergency Minimum Full Capacity	105,000 85,000 65,000 55,000	80,000 65,000 55,000 40,000	75,000 60,000 50,000 (a)	150,000 120,000 100,000 80,000	20,000+ 175,000 150,000 125,000	165,000 135,000 115,000 90,000	220,000 180,000 155,000 125,000	300,000 255,000 215,000 175,000	800,000+ 710,000 600,000 500,000	(a) (a) (a) (a)	B
(CL)	100	Emergency Minimum Full Capacity	80,000 65,000 50,000 40,000	65,000 50,000 40,000 30,000	50,000 (a) (a) (a)	120,000 95,000 80,000 65,000	170,000 140,000 120,000 100,000	135,000 110,000 90,000 70,000	180,000 150,000 125,000 (a)	240,000 200,000 170,000 140,000	670,000 560,000 470,000 390,000	(a) (a) (a) (a)	B
(CL)	100	Emergency Minimum Full Capacity	110,000 85,000 70,000 55,000	85,000 70,000 55,000 45,000	85,000 70,000 55,000 45,000	155,000 130,000 [illegible] 80,000	200,000+ 185,000 155,000 130,000	175,000 145,000 120,000 95,000	230,000 190,000 160,000 130,000	320,000 265,000 225,000 185,000	800,000+ 740,000 630,000 520,[illegible]00	240,000 (a) (a) (a)	B
(CL)	75	Emergency Minimum Full Capacity	155,000+ 140,000 110,000 85,[illegible]00	140,000 115,000 90,000 70,000	95,000+ 95,000+ 90,000 70,000	220,000+ 195,000 155,000 125,000	200,000+ 200,000+ 200,000+ 190,000	260,000 215,000 175,000 1[illegible]0,000	230,000+ 230,000+ 220,000 180,000	380,000+ 370,000 310,000 255,000	800,000+ 800,000+ 800,000+ 740,000	345,000 285,000 240,000 (a)	B
(CL)		Emergency Minimum Full Capacity	150,000 125,000 100,000 75,000	85,000+ 85,000+ 80,000 60,000	95,000+ 90,000 75,000 60,000	220,000 180,000 145,000 115,000	200,000+ 200,000+ 200,000+ 180,000	245,000 200,000 165,000 135,000	230,000+ 230,000+ 220,000 180,000	380,000+ 370,000 315,000 255,000	800,000+ 800,000+ 800,000+ 725,000	340,000 280,000 235,000 (a)	B
(CL)	50	Emergency Minimum Full Capacity	45,000 35,000 30,000 25,000	35,000 30,000 25,000 21,000	(a) (a) (a) (a)	65,000 55,000 45,000 (a)	95,000 80,000 70,000 65,000	70,000 60,000 55,000 (a)	(a) (a) (a) (a)	130,000 (a) (a) (a)	370,000 330,000 (a) (a)	(a) (a) (a) (a)	B
(CL)	100	Emergency Minimum Full Capacity	110,000 85,000 70,000 55,000	85,000 70,000 55,000 45,000	85,000 70,000 55,000 45,000	155,000 130,000 105,000 80,000	200,000+ 185,000 155,000 130,000	175,000 145,000 120,000 95,000	230,000 190,000 160,000 130,000	320,000 265,000 225,000 185,000	800,000+ 740,000 630,000 520,000	240,000 (a) (a) (a)	B
(CL)	100	Emergency Minimum Full Capacity	80,000 50,000 40,000	65,000 50,000 40,000 30,000	50,000 (a) (a) (a)	120,000 95,000 80,000 65,000	170,000 140,000 120,000 100,000	135,000 110,000 90,000 70,000	180,000 150,000 125,000 (a)	240,000 200,000 170,000 140,000	670,000 560,000 470,000 390,000	(a) (a) (a) (a)	B

Table 4 (Concl

FACILITY				OVERLAY PAVEMENT			PAVEMENT			BASE			SUBGRADE		
IDENTIFICATION	LENGTH FT	WIDTH FT	TEST PIT NO	THICK IN	DESCRIPTION	FLEX. STR PSI	THICK. IN.	DESCRIPTION	FLEX. STR PSI	THICK. IN.	DESCRIPTION	CBR k	CLASSIFICATION	CBR k	CATEGORY PAVEMENT AND OPERAT USE
EW runway (Cont'd) Sta 13+80.7 to 31+00					Selected figures for evaluation		2	Asphaltic concrete		5	Crushed limestone with asphalt	30	Lean clay (CL)	5	Emerge Minimu Full Capaci
Sta 31+00 to 49+11					Selected figures for evaluation		3	Asphaltic concrete		5	Crushed limestone with asphalt	30	Lean clay (CL)	5	Emerge Minimu Full Capaci
Sta 49+11 to 51+01					Selected figures for evaluation		6	Portland cement	900				Lean clay (CL)	100	Emerge Minimu Full Capaci
NE-SW runway Sta -0+75 to 2+60; Sta 42+45 to 44+25					Selected figures for evaluation		6	Portland cement	900				Lean to fat clay (CL-CH)	100	Emerge Minimu Full Capaci
Sta 2+60 to 42+45					Selected figures for evaluation		1	Asphaltic concrete		5	Crushed limestone with asphalt	30	Lean clay (CL)	5	Emerge Minimu Full Capaci
NW-SE Sta 0+00 to 5+40					Selected figures for evaluation		6	Portland cement	825				Lean to fat clay (CL-CH)	100	Emerge Minimu Full Capaci
Sta 5+40 to 22+58.3 Sta 33+61.9 to 35+02.7					Selected figures for evaluation		1	Asphaltic concrete		5	Crushed limestone with asphalt	30	Lean clay (CL)	5	Emerge Minimu Full Capac
Sta. 35+02.7 to 50+00					Selected figures for evaluation		6	Portland cement	900				Lean to sandy clay (CL)	100	Emerge Minim Full Capac
Taxiway 3					Selected figures for evaluation		6	Portland cement	900				Lean clay (CL)	100	Emerg Minim Full Capac
Taxiway 5					Selected figures for evaluation		7	Asphaltic concrete		5	Crushed limestone with asphalt	30	Lean clay (CL)	5	Emerg Minim Full Capac
Taxiway 6					Selected figures for evaluation		3	Asphaltic concrete		4	Crushed limestone with asphalt	30	Lean clay (CL)	5	Emerg Minim Full Capac
Taxiway 8 and 9					Selected figures for evaluation		6	Portland cement	900				Lean clay (CL)	100	Emerg Minim Full Capac

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Table 4 (Concluded)

CBR k	Category of Pavement Life and Operational Use	Tricycle Arrangement: Single 100 PSI Tire Pressure	Single 100 Sq In Contact Area	Single 241 Sq In Contact Area	TW 28" C-C 226 Sq In Contact Area Each Tire	Single Tandem 60" Spacing 400 Sq In Contact Area	TW 37" C-C 267 Sq In Contact Area Each Tire	TW 44" C-C 630 Sq In Contact Area Each Tire	Twin Tandem 33" × 48" 208 Sq In Contact Area Each Tire	C-5A Gear Configuration	Bicycle: Twin Twin Spcg 37-62-37 267 Sq In Contact Area Each Tire	Traffic Area
	Load carrying capacity in lb of gross plane load for indicated landing gear types and configurations and life categories											
	Emergency	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	
	Minimum	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	
	Full	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	
5	Capacity	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	B
	Emergency	25,000	24,000	(a)	45,000	(a)	(a)	(a)	(a)	(a)	(a)	
	Minimum	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	
	Full	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	
5	Capacity	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	B
	Emergency	80,000	65,000	50,000	120,000	170,000	135,000	180,000	240,000	670,000	(a)	
	Minimum	65,000	50,000	(a)	95,000	140,000	110,000	150,000	200,000	560,000	(a)	
	Full	50,000	40,000	(a)	80,000	120,000	90,000	125,000	170,000	470,000	(a)	
100	Capacity	40,000	30,000	(a)	65,000	100,000	70,000	(a)	140,000	390,000	(a)	B
	Emergency	80,000	65,000	50,000	120,000	170,000	135,000	180,000	240,000	670,000	(a)	
	Minimum	65,000	50,000	(a)	95,000	140,000	110,000	150,000	200,000	560,000	(a)	
	Full	50,000	40,000	(a)	80,000	120,000	90,000	125,000	170,000	470,000	(a)	
100	Capacity	40,000	30,000	(a)	65,000	100,000	70,000	(a)	140,000	390,000	(a)	B
	Emergency	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	
	Minimum	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	
	Full	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	
5	Capacity	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	B
	Emergency	70,000	55,000	45,000	105,000	150,000	120,000	165,000	215,000	600,000	(a)	
	Minimum	55,000	45,000	(a)	8[illegible],000	125,000	95,000	135,000	180,000	500,000	(a)	
	Full	45,000	35,000	(a)	70,000	110,000	80,000	115,000	150,000	420,000	(a)	
100	Capacity	35,000	25,000	(a)	55,000	90,000	65,000	(a)	(a)	350,000	(a)	B
	Emergency	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	
	Minimum	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	
	Full	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	
5	Capacity	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	B
	Emergency	80,000	65,000	50,000	120,000	170,000	135,000	180,000	240,000	670,000	(a)	
	Minimum	65,000	50,000	(a)	95,000	140,000	110,000	150,000	200,000	560,000	(a)	
	Full	50,000	40,000	(a)	80,000	120,000	90,000	125,000	170,000	470,000	(a)	
100	Capacity	40,000	30,000	(a)	65,000	100,000	70,000	(a)	14[illegible],000	390,000	(a)	B
	Emergency	80,000	65,000	50,000	120,000	170,000	135,000	180,000	240,000	670,000	(a)	
	Minimum	65,000	50,000	(a)	95,000	140,000	110,000	150,000	200,000	560,000	(a)	
	Full	50,000	40,000	(a)	80,000	120,000	90,000	125,000	170,000	470,000	(a)	
100	Capacity	40,000	30,000	(a)	65,000	100,000	70,000	(a)	140,000	390,000	(a)	B
	Emergency	50,000	50,000	55,000	85,000	105,000	95,000	(a)	145,000	400,000	(a)	
	Minimum	30,000	30,000	(a)	55,000	70,000	(a)	(a)	(a)	(a)	(a)	
	Full	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	
5	Capacity	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	B
	Emergency	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	
	Minimum	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	
	Full	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	
5	Capacity	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	B
	Emergency	80,000	65,000	50,000	120,000	170,000	135,000	180,000	240,000	670,000	(a)	
	Minimum	65,000	50,000	(a)	95,000	140,000	110,000	150,000	200,000	560,000	(a)	
	Full	50,000	40,000	(a)	80,000	120,000	90,000	125,000	170,000	470,000	(a)	
100	Capacity	40,000	30,000	(a)	65,000	100,000	70,000	(a)	140,000	390,000	(a)	B

Note: A plus sign denotes allowable gross loading greater than the maximum gross weight of any existing aircraft having indicated gear configuration. (a) denotes allowable gross loading is less than the minimum gross weight of any existing aircraft having indicated gear configuration.

Table 5

Aircraft Identification Index
(For Gear Configurations Shown in Columns 1-10, Table 4)

1	2	3	4	5	6	7	8	9	10
B-26-B	B-45-C	F-111	C-119	C-130	B-50	C-124	C-133	C-5A	B-52
B-45-A	F-84-F		C-54-G		KC-97		C-135		B-52-A
B-57-B	F-84-G		C-118		C-74		KC-135		
B-66-C	F-86-D		C-131		C-121		C-141		
C-45-F	F-86-F						KC-137		
C-45-G	F-86-H								
C-46-F	F-89 Series								
C-82	F-100-A								
C-123-B	F-101-A								
F-86-A	F-102								
F-86-E	C-47								
F-94-B	B-57								

Table 6

Design Life in Terms of Runway Traffic Cycles

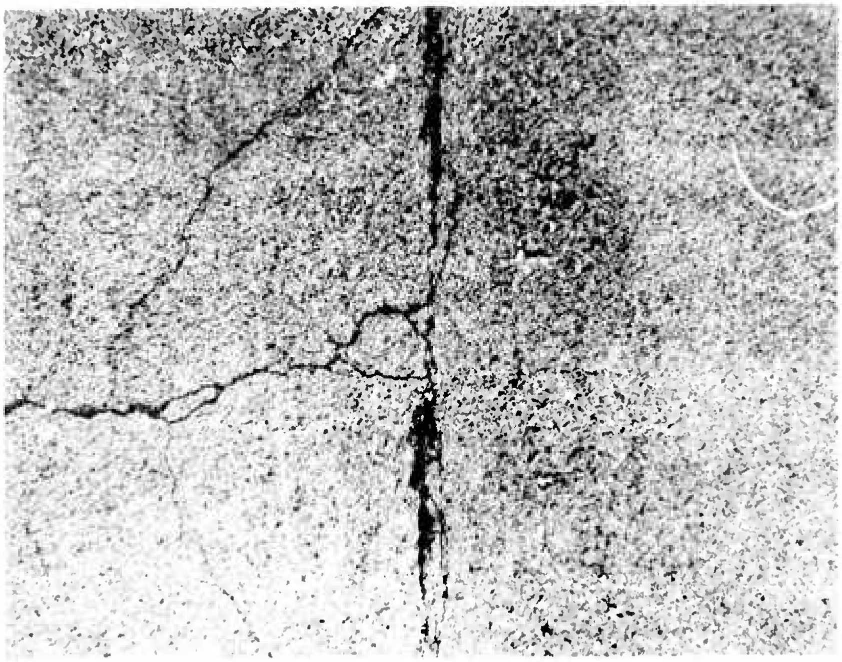
Aircraft Landing Gear Assembly and Main Gear Configuration	Design Life in Terms of Traffic Cycles for Indicated Operational Categories			
	Capacity	Full	Minimum	Emergency
Single wheel, 100 psi				
10-kip assembly load	Unlimited	35,000	7,000	1,400
20-kip assembly load	Unlimited	25,000	5,000	1,000
50-kip assembly load	Unlimited	20,000	4,000	800
70-kip assembly load	Unlimited	15,000	4,000	700
Single wheel, 100-sq-in. constant contact area	Unlimited	35,000	7,000	1,400
Single wheel, 241-sq-in. constant contact area	Unlimited	28,000	5,500	1,100
Twin wheel, 28 in. c-c, 226-sq-in. contact area each tire, tricycle	Unlimited	20,000	4,000	800
Single tandem, 60 in. c-c, 400-sq-in. contact area each tire, tricycle	Unlimited	11,000	2,200	440
Twin wheel, 44 in. c-c, 630-sq-in. contact area each tire, tricycle	Unlimited	15,000	3,000	600
Twin wheel, 37 in. c-c, 267-sq-in. contact area each tire, tricycle	Unlimited	20,000	4,000	800
Twin tandem, 33 x 48 in., 208-sq-in. contact area each tire	Unlimited	10,000	2,000	400
C-5A configuration	Unlimited	7,500	1,500	300
Twin twin spacing 37-62-37 in., 267-sq-in. contact area each tire, bicycle	Unlimited	10,000	2,000	400

Note: Traffic cycle denotes one landing and one takeoff of an aircraft.

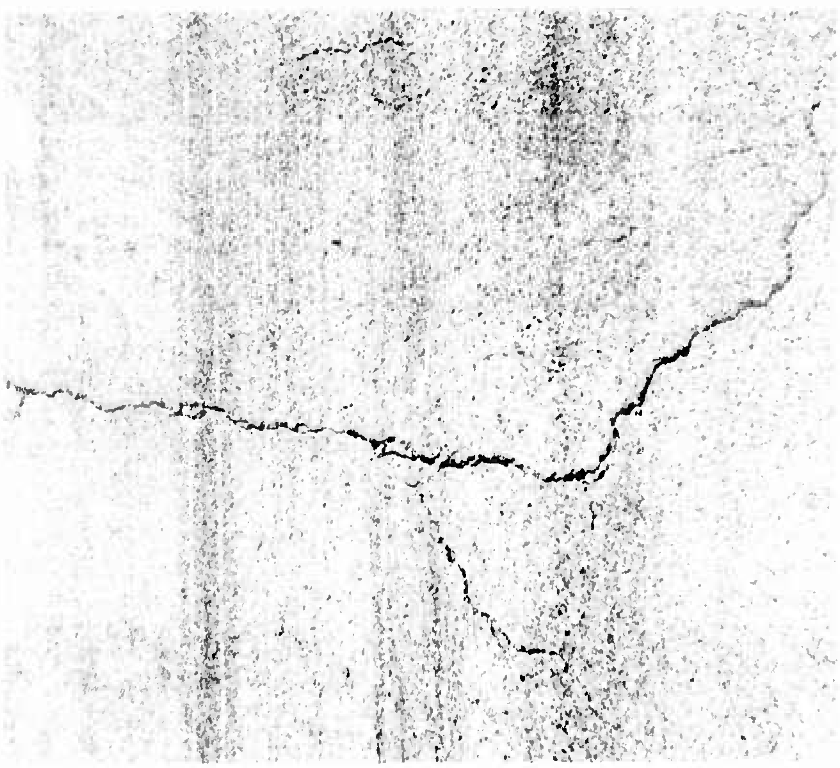
Table 7

Overlay Design Thicknesses

Facility	Nonrigid-Thickness, in.			Rigid-Thickness, in.			Flexible-Thickness, in.		
	Capacity	Full	Emergency	Capacity	Full	Emergency	Capacity	Full	Emergency
N-S runway									
1000-ft ends	18	14	4	12	11	10	22	16	5
Interior	-	-	-	10	10	9	17	11	2
Taxiways 1 and 2	22	17	8	12	11	10	-	-	-
Taxiways 4 and 7, N and S apron extensions	21	16	7	13	12	11	-	-	-
Original apron	23	18	9	13	12	11	-	-	-
Taxiway 5	-	-	-	11	11	10	21	15	4
Portion of E-W runway used as taxiway	-	-	-	11	11	10	25	19	8
Taxiway 6	-	-	-	11	11	10	22	18	7
N-S runway to taxiway 5	-	-	-	11	11	10	22	16	5



Photograph 1. Typical longitudinal and transverse cracks in asphaltic concrete (425 ft from the north end of N-S runway)

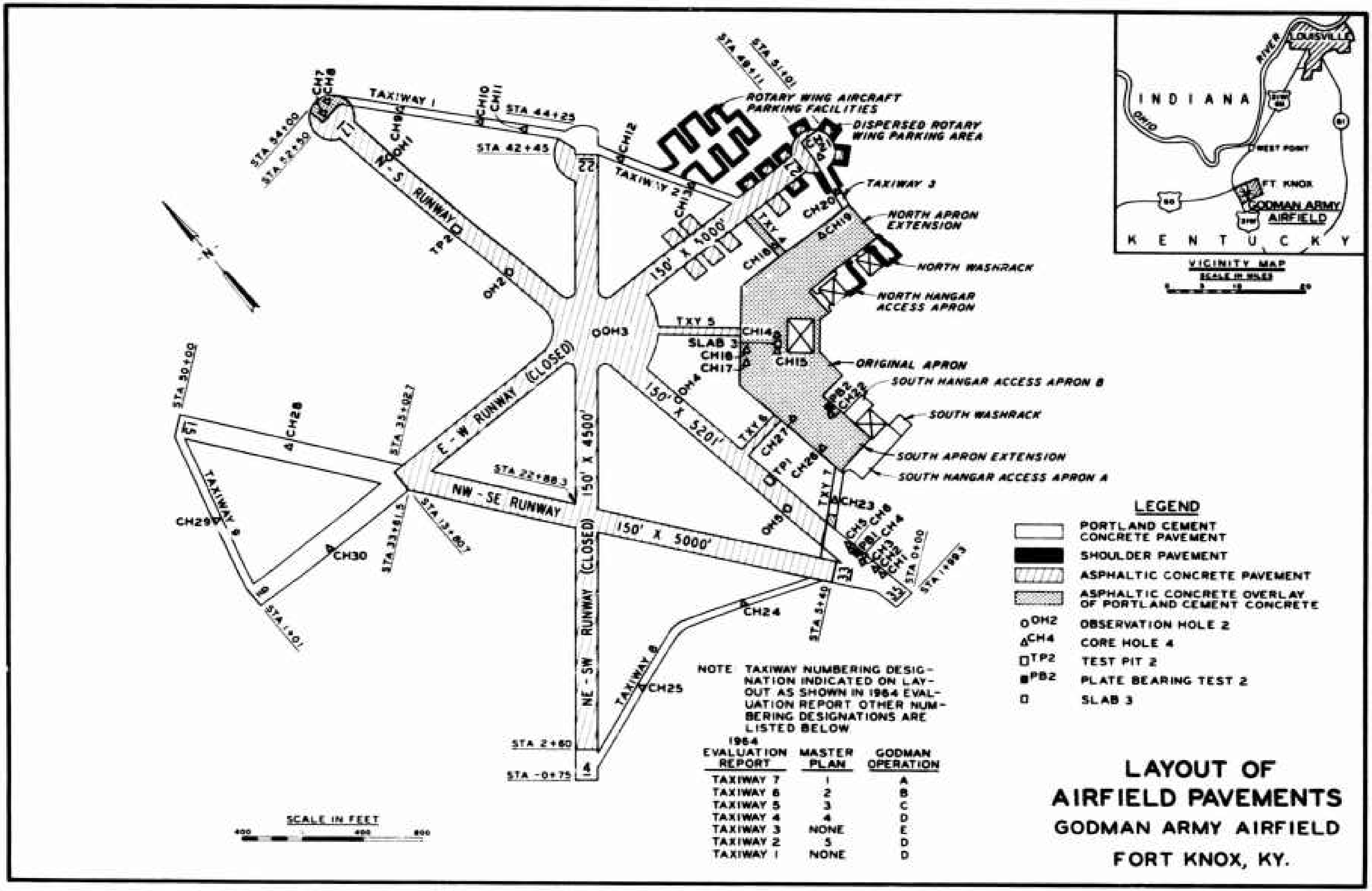


Photograph 2. Typical transverse crack in asphaltic concrete (near sta 45+00 N-S runway)

Photograph 3. Typical cracking and spalling of PCC pavements (taxiway 7)

Photograph 4. Reflection cracking of apron where seal coat had been applied on AC overlay

Photograph 5. Reflection cracking at slab intersections in apron area


LAYOUT OF
AIRFIELD PAVEMENTS
GODMAN ARMY AIRFIELD
FORT KNOX, KY.
LEGEND
PORTLAND CEMENT CONCRETE PAVEMENT
SHOULDER PAVEMENT
ASPHALTIC CONCRETE PAVEMENT
ASPHALTIC CONCRETE OVERLAY OF PORTLAND CEMENT CONCRETE
OH2 OBSERVATION HOLE 2
CH4 CORE HOLE 4
TP2 TEST PIT 2
PB2 PLATE BEARING TEST 2
SLAB 3
NOTE TAXIWAY NUMBERING DESIGNATION INDICATED ON LAYOUT AS SHOWN IN 1964 EVALUATION REPORT OTHER NUMBERING DESIGNATIONS ARE LISTED BELOW
1964 EVALUATION REPORT | MASTER PLAN | GODMAN OPERATION
TAXIWAY 7 | 1 | A
TAXIWAY 6 | 2 | B
TAXIWAY 5 | 3 | C
TAXIWAY 4 | 4 | D
TAXIWAY 3 | NONE | E
TAXIWAY 2 | 5 | D
TAXIWAY 1 | NONE | D
ROTARY WING AIRCRAFT PARKING FACILITIES
DISPERSED ROTARY WING PARKING AREA
TAXIWAY 3
NORTH APRON EXTENSION
NORTH WASHRACK
NORTH HANGAR ACCESS APRON
ORIGINAL APRON
SOUTH HANGAR ACCESS APRON B
SOUTH WASHRACK
SOUTH APRON EXTENSION
SOUTH HANGAR ACCESS APRON A
N - S RUNWAY
E - W RUNWAY (CLOSED)
NW - SE RUNWAY
NE - SW RUNWAY (CLOSED)
150' X 4000'
150' X 5201'
150' X 5000'
150' X 4500'
TAXIWAY 1
TAXIWAY 2
TAXIWAY 8
TAXIWAY 9
TXY 4
TXY 5
TXY 6
TXY 7
SLAB 3
STA 54+00
STA 52+50
STA 44+25
STA 42+45
STA 48+11
STA 51+01
STA 30+00
STA 35+02.7
STA 33+61.5
STA 22+88.3
STA 13+80.7
STA 1+01
STA 2+60
STA -0+75
STA 5+40
STA 0+00
STA 1+98.3
VICINITY MAP
SCALE IN MILES
INDIANA
KENTUCKY
OHIO RIVER
LOUISVILLE
WEST POINT
FT KNOX
GODMAN ARMY AIRFIELD
SCALE IN FEET
400
400
800
N